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IS 8962 (1978): Chlormequat Chloride Aqueous Solutions [FAD
1: Pesticides and Pesticides Residue Analysis]



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Bhartrhari—Nitiśatakam

“Knowledge is such a treasure which cannot be stolen”

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IS : 8962 - 1978

Indian Standard

ICATION FOR
QUAT CHLORIDE
US SOLUTIONS

UDC 632.951 CHL : 632.981.12



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INDIAN STANDARDS INSTITUTION
MANAK BHAVAN, 9 BAHADUR SHAH ZAFAR MARG
NEW DELHI 110002

February 1979

Indian Standard

SPECIFICATION FOR CHLORMEQUAT CHLORIDE AQUEOUS SOLUTIONS

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Indian Standard
**SPECIFICATION FOR
CHLORMEQUAT CHLORIDE
AQUEOUS SOLUTIONS**

0. FOREWORD

0.1 This Indian Standard was adopted by the Indian Standards Institution on 30 October 1978, after the draft finalized by the Pest Control Sectional Committee had been approved by the Agricultural and Food Products Division Council and the Chemical Division Council.

0.2 Chlormequat chloride is a plant growth regulant which usually induces retardation of shoot elongation and vegetative growth in most of the plants. It is used in agriculture for increasing yields and improvement in quality of various crops.

0.3 Chlormequat chloride is generally formulated as an aqueous solution containing 50 percent (*m/m*) of chlormequat chloride (2 chloroethyl trimethyl-ammonium chloride).

0.4 In the preparation of this standard due consideration has been given to the provisions of the Insecticides Act, 1968 and the Rules framed thereunder. However, this standard is subject to the restrictions imposed under these, wherever applicable.

0.5 For the purpose of deciding whether a particular requirement of this standard is complied with, the final value, observed or calculated, expressing the result of a test or analysis, shall be rounded off in accordance with IS : 2-1960*. The number of significant places retained in the rounded off value should be the same as that of the specified value in this standard.

1. SCOPE

1.1 This standard prescribes the requirements and the methods of sampling and test for chlormequat chloride aqueous solutions.

*Rules for rounding off numerical values (*revised*).

2. REQUIREMENTS

2.1 The material shall consist of chlormequat chloride, technical, dissolved in water with or without added surface active agents/suitable preservatives and corrosion inhibitors. Chlormequat chloride, technical, employed in the manufacture of the material shall conform to IS : 8961-1978*.

2.2 Physical — The material shall comply with the physical requirements specified in 2.2.1 and 2.2.2.

2.2.1 Description — The material shall be homogeneous pale liquid, free from sediments. Suspended matter shall be negligible.

2.2.2 Cold Test — No turbidity or separation of solid matter shall occur when the material is subjected to cold test at 10°C as prescribed in 13.1 of IS : 6940-1973† or any other lower temperature as agreed to between the purchaser and the vendor.

2.3 Chemical — The material shall also comply with the requirements specified in Table 1.

**TABLE 1 REQUIREMENTS FOR CHLORMEQUAT CHLORIDE
AQUEOUS SOLUTIONS**
(Clauses 2.3 and 5.1)

SL No.	CHARACTERISTIC	REQUIREMENT	METHOD OF TEST, REF TO	
			Appendix of IS : 8961- 1978*	Cl No. of IS : 6940- 1973†
(1)	(2)	(3)	(4)	(5)
i)	Chlormequat chloride content, percent by mass	Nominal value as declared on the container (see 2.3.1)	A	—
ii)	Ratio between ionic chloride and total chlorine content	1 : 1.9 to 2.1	A	—
iii)	Acidity (as H_2SO_4), percent by mass, Max	0.5	—	11.3

*Specification for chlormequat chloride, technical.

†Methods of tests for pesticides and their formulations.

*Specification for chlormequat chloride, technical.

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AMENDMENT NO. 1 MAY 1994
TO
IS 8962 : 1978 SPECIFICATION FOR CHLORMEQUAT
CHLORIDE AQUEOUS SOLUTIONS

(*Page 6, clause 4.1*) — Substitute the following for the existing:

‘When freshly manufactured material in bulk quantity is offered for inspection, representative samples of the material shall be drawn and tested as prescribed in IS 10627 : 1983 within 90 days of its manufacture. When the material is offered for inspection after 90 days of its manufacture, sampling shall be done as prescribed in IS 10627 : 1983. However, the criteria for conformity of the material when tested, shall be the limits of tolerances, as applicable over the declared nominal value and given under clause 2.3.1 of the standard.’

2.3.1 Chlormequat Chloride Content — When determined by the method specified in Appendix A of IS : 8961-1978*, the observed chlormequat chloride content percent (m/m) of any of the samples shall not differ from the declared nominal value by more than the tolerance limits indicated below:

<i>Nominal Value, Percent</i>	<i>Tolerance</i>
Up to 9	+10 - 5
10 and below 50	± 5
50 and above	+ 5 - 3

} percent of the nominal value

2.3.1.1 The actual value of the chlormequat chloride content shall be calculated to two decimal places for rounding off to one decimal place before applying the tolerances as stipulated in 2.3.1.

3. PACKING AND MARKING

3.1 Packing — The material shall be packed in clean and dry containers made of mild steel or tinplate suitably and properly lacquered from inside or high density polyethylene containers of 1.75 to 2.25 mm thickness. High density polyethylene containers shall be heat sealed with high density polyethylene plugs finally closed with high density polyethylene screw caps. For smaller packs up to 1 litre high density polyethylene containers conforming to IS : 7408-1974† or galvanized tin containers suitably and properly lacquered from inside shall be used. The containers shall also comply with general requirements as stipulated in 2 of IS : 8190 (Part II)-1976‡.

3.2 Marking — The container shall bear legibly and indelibly the following information and any other information as necessary under the Insecticides Act and Rules:

- a) Name of the material;
- b) Name of the manufacturer;
- c) Batch number;
- d) Date of manufacture;
- e) Net volume of contents;
- f) Nominal chlormequat chloride, percent (m/m); and
- g) The minimum cautionary notice as worded in the Insecticides Act and Rules.

*Specification for chlormequat chloride, technical.

†Specification for blown polyolefins plastic containers (up to 5 litres).

‡Requirements for packing of pesticides: Part II Liquid pesticides.

IS : 8962 - 1978

3.2.1 Each container may also be marked with the ISI Certification Mark.

NOTE — The use of the ISI Certification Mark is governed by the provisions of the Indian Standards Institution (Certification Marks) Act and the Rules and Regulations made thereunder. The ISI Mark on products covered by an Indian Standard conveys the assurance that they have been produced to comply with the requirements of that standard under a well-defined system of inspection, testing and quality control which is devised and supervised by ISI and operated by the producer. ISI marked products are also continuously checked by ISI for conformity to that standard as a further safeguard. Details of conditions under which a licence for the use of the ISI Certification Mark may be granted to manufacturers or processors, may be obtained from the Indian Standards Institution.

4. SAMPLING

4.1 Representative samples of the material shall be drawn as prescribed in 'Indian Standard Methods for sampling of pesticides and their formulations' (*under preparation*).

NOTE — Till such time the standard under preparation is published, the matter shall be as agreed to between the concerned parties.

5. TESTS

5.1 Tests shall be carried out by appropriate methods as referred to in col 4 and 5 of Table 1.

5.2 Quality of Reagents — Unless specified otherwise pure chemicals and distilled water (*see IS : 1070-1977**) shall be employed in the tests.

NOTE — ' Pure chemicals ' shall mean chemicals that do not contain impurities which affect the results of the analysis.

*Specification for water for general laboratory use (*second revision*).

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INDIAN STANDARDS ON PESTICIDES (EMULSIFIABLE CONCENTRATES)

IS:

632-1978	BHC (Gamma) emulsifiable concentrates (<i>fourth revision</i>)
633-1975	DDT emulsifiable concentrates (<i>first revision</i>)
1307-1973	Aldrin emulsifiable concentrates (<i>first revision</i>)
1310-1974	Endrin emulsifiable concentrates (<i>first revision</i>)
2367-1978	Malathion emulsifiable concentrates (<i>second revision</i>)
2682-1966	Chlordane emulsifiable concentrates (<i>first revision</i>)
2861-1964	Diazinon emulsifiable concentrates
2865-1978	Methyl parathion emulsifiable concentrates (<i>first revision</i>)
3903-1975	Dimethoate emulsifiable concentrates (<i>first revision</i>)
3905-1966	Phiometon emulsifiable concentrates
4323-1967	Endosulfan emulsifiable concentrates
4325-1967	Binapacryl emulsifiable concentrates
4808-1968	Pyrethrum emulsifiable concentrates
5277-1978	Dichlorvos emulsifiable concentrates (<i>first revision</i>)
5279-1969	Dicofol emulsifiable concentrates
5281-1969	Fenitrothion emulsifiable concentrates
6177-1971	Phosphamidon water soluble concentrates
6439-1978	Heptachlor emulsifiable concentrates (<i>first revision</i>)
7946-1976	Toxaphene emulsifiable concentrates
7948-1976	Fenthion emulsifiable concentrates
8026-1976	Formothion emulsifiable concentrates
8027-1976	Propanil emulsifiable concentrates
8028-1976	Quinalphos emulsifiable concentrates
8074-1976	Monocrotophos water soluble concentrates
8259-1976	Oxydemeton-methyl emulsifiable concentrates
8291-1976	Phenthoate emulsifiable concentrates
8487-1977	Phosalone emulsifiable concentrates
8497-1977	Paraquat dichloride salt aqueous solutions
8498-1977	Ternephos emulsifiable concentrates

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